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# Rural Lines

RURAL ELECTRIFICATION ADMINISTRATION • U. S. DEPARTMENT OF AGRICULTURE



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## A Message from the ADMINISTRATOR

The rural electrification movement and rural people everywhere lost a steadfast friend with the death of Speaker Sam Rayburn.

Sam Rayburn had many victories as a legislator. Among them were the Securities Act of 1933, the Securities Exchange Act of 1934, and the Public Utility Holding Company Act of 1935.

But Sam Rayburn failed to mention them last year in a discussion of his past legislative victories. He cited instead two bills which he termed "my most important"—one to finance all-weather rural roads and get the farmer "out of the mud," and the other, the Rural Electrification Act of 1936, which he coauthored with Senator George Norris of Nebraska.

It was typical of Mr. Rayburn to recall two laws which did so much to change the day-to-day lives of people, for it was people that interested the Speaker, not abstract theory. Last year, addressing REA's 25th anniversary celebration in Washington, he called rural electrification "the greatest lift the farmers ever had." Millions of rural people can testify to the great truth of that statement. And we also know how much we owe Sam Rayburn for making it possible.

Sam Rayburn was a giant among men in public life and a champion among the friends of rural electrification. We will miss him.

  
Administrator

## Rural Lines

*June E. Panciera, Editor*

*Contributors to this issue: Bernard Krug, Barton Stewart, Jr., Hubert Kelley, Jr.*

*This year many children of Luber, Arkansas, will see electric trains and Christmas tree lights for the first time. First Electric Cooperative Corporation, located at Jacksonville, recently brought electric power to this remote area.*

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# THE "INVISIBLE" TELEPHONE SYSTEM

If you've ever walked down a country road and wondered where the telephone wire and telephone poles are, wonder no more. The poles are gone because the wire is buried—about 30 inches under your feet. The technical name for this type of system is "buried plant" and the idea is catching on everywhere.

Since 1957, REA borrowers have been moving rapidly toward reliable all-buried outside plant. During 1961, 24,100 miles, or more than 57 percent, of a total of 42,000 miles of outside plant, went underground.

Where the use of buried plant is practical, it is yielding excellent subscriber service at competitive installation costs, and the record so far shows much lower upkeep and maintenance costs. Subscribers like it because there are fewer outages and no poles to obstruct their view of the countryside.

How do you get the wire underground? You plow it under. A tractor goes along the shoulder of the road, followed by a specially-designed plow. On top of the plow is mounted a big reel of wire or cable, which is covered with polyethylene or vinyl plastic. The polyethylene is an oil byproduct; it comes from the earth and lasts longer in the earth than in the air.

In one continual operation, the plow rips a slot about 30 inches deep and lays the wire or cable in that slot. A second heavy vehicle follows and closes the slot by driving over it. Every 1,500 feet or so, the crew installs a pedestal, which sticks up out of the ground about 3 feet.

The idea of burying plant usually gets quick acceptance from State road

commissions and State utility groups. In some States where a regulation determines that telephone poles be set a minimum distance from the road, buried plant provides an easy out: no poles, hence no worry. Further, borrowers needn't worry about derricks or other tall vehicles pulling wire down accidentally.

In only 4 years, the buried plant concept has made amazing strides among REA telephone borrowers. The first major use of buried plant was made by the Northeast Missouri Rural Telephone Company, at Green City, Missouri. REA telephone engineers worked with the cooperative's contract crews in burying 300 miles of plant. The project was a big success.

Until that time, most telephone borrowers put their wire up in the air. Possibly as much as 90 percent of the route miles of construction built prior to 1958 was composed of aerial open wire conductors. But REA telephone people note a very significant reduction in the amount of open wire plant that has been used since 1957.

Look at these figures: In 1958, 44,100 circuit miles of open wire plant were built, while only 2,500 route miles went underground. In 1959, the underground plant had tripled to 7,500 miles, while aerial plant was cut almost in half—down to 24,200 circuit miles of line. By 1960, the open wire plant was down even lower, to 21,000 circuit miles and buried plant skyrocketed to 10,800 miles. This year more than half of total construction was underground, and by 1965 the estimates are for 30,000 miles of buried plant compared with about



*This machine is responsible for putting telephone wire "down under" the ground. A single operation digs hole, lays wire. Another machine covers the hole.*

17,000 circuit miles of open wire construction.

With REA leading the way, manufacturers have cooperated, and borrowers have seen the many advantages of buried plant. New designs in wires, cables, pedestals, terminals, protective devices, and other accessories have produced a line of materials and equipment that are entirely suitable for direct burial of telephone plant. Plowing equipment, for example, specifically designed for this purpose, has been greatly improved in the last few years.

Today, the incentive to put plant underground is great. One of the big reasons is that aerial plant is extremely susceptible to the elements. With buried plant you get these significant advantages: reduced maintenance because of protection against windstorms, sleet storms, fire, hurricanes, floods, vehicular traffic, and lightning.

For example, in 1956, Hurricane

Audrey blew down about half of the aerial plant operated by the Cameron Telephone Company, in Cameron, Louisiana, knocking out three of that borrower's six exchanges. REA approved a fast emergency loan of \$400,000 at the time, to help the company get back on its feet again. The borrower used most of that money to replace the destroyed half with buried plant. This totaled about 100 miles of plant.

This year, when Hurricane Carla rushed through Louisiana, the borrower was better prepared. Although winds reached more than 100 miles per hour blowing down several buildings and telephone poles, and floods of from 5 to 15 feet covered every pedestal, there was no damage to the buried plant at all. Manager J. T. Henning said: "When we get bad weather, buried plant is the one thing we don't have to worry about."

Financially, in terms of initial cost, buried plant is holding its own. Statis-



*Close-up (right) shows wire feeding into trough in ground, two or three feet below surface. Only reminder of buried plant is trim pedestal (right, below) near house.*



tics show that the design and construction of buried plant enable borrowers to build it at costs about equal to aerial plant in the same region.

Many of the figures favoring buried over aerial plant come from a long-term survey of 10 controlled projects. REA picked 10 borrowers, asked the manager to report at 3-month intervals. REA field engineers inspected the projects regularly, and reported. Preliminary data of trouble rate on these buried plants is approximately 25 percent of that encountered with aerial plant of the same vintage. But, the cost "per trouble" is approximately twice that for a trouble in aerial plant of the same type. Even so, simple arithmetic shows that maintenance costs for buried plant are about half the amounts presently assumed for aerial plant.

Pioneered by REA, the idea of putting telephone plant underground instead of stringing it through the air is definitely growing more popular. It is one more example of how rural telephone subscribers everywhere will



benefit from new materials, new electronic equipment, and new engineering ideas, cultivated by their local rural telephone system in cooperation with REA.

# ENTERPRISE IN ACTION



Harvey Robbins, president of the Lakeside Telephone Company at Whitehouse, Texas, knew what he wanted. All his life he wanted his own business—and he was willing and eager to make any sacrifice to get it. Back in 1936, Robbins went to work for a large telephone system. He started as a ditchdigger, and before he resigned he had been a groundman, lineman, repairman, and switchman. Thus, he gained much practical experience in the telephone business.

In 1952, while still working for the telephone company, Robbins bought the telephone exchange which was serving Maud, Texas. The exchange's 169 subscribers were receiving old-style magneto service, practically all on party lines. The exchange was operated through a one-position switchboard in a private home. The operator lived in the residence and gave 24-hour service, even though it meant getting out of bed to answer the board's summons. Service rates in those days were \$2.00 for residence service and \$3.00 for businesses.

Immediately after he bought the exchange, Robbins set to work adding

cable and additional lines. He installed a used two-position common battery switchboard and, in 1954, he was able to convert the exchange to common battery service.

All during this period, he was still working full time at his other job. He made all the additions and improvements on the Maud exchange on days off, weekends, vacation time, and holidays. Many days he worked 14 to 16 hours and, often financially unable to hire help or rent equipment, he dug holes and set and moved poles singlehanded.

Robbins' wife pitched in to help where she could in those early days. She managed to do the billing between getting drinks of water, peeling apples, wiping noses, and attending to the myriad other tasks involved in caring for the couple's seven children. At that time, the billing desk was the dining room table and other office equipment consisted of a lone file cabinet and a manually operated adding machine. The bills were handwritten by Mrs. Robbins.

In 1956, Robbins purchased Redwater—a magneto exchange serving



21 subscribers—located at Redwater, Texas, about 5 miles from Maud.

The two elderly ladies, who had been operating the Redwater exchange, continued to run the board for 60 days until Robbins could lease one circuit from the company where he worked to continue service into the area. However, he was only able to make service available to the subscribers of greatest community importance, such as the school, bank and home for the aged.

In 1957, Robbins incorporated his two exchanges into the Lakeside Telephone Company. His wife is secretary of the company. Soon after, he resigned his other job, and, that same year, his first REA loan to cutover to dial was approved.

Through the facilities that were built as a result of that first REA loan, he was able to provide dial service, not only to the towns of Maud and Redwater, but also to the communities of Corley, Carbondale, Old Union, Simms, Bassett, Siloam, and their surrounding rural areas. At cutover on April 19, 1959, the subscriber list totaled 632. It has now grown to 707 main stations.

At cutover, the central office part of the old original building was converted to a business office. It is still maintained as such on a part-time basis.

After the Maud exchange was cutover, Lakeside moved its main headquarters to Whitehouse, Texas. A new building of all masonry construction, housing dial equipment and a commercial dial office, was completed in July 1960. The new building, which is as yet only sketchily furnished, has been planned with adequate facilities for future growth.

In 1958, a second REA loan was approved to Lakeside to purchase and rehabilitate the Whitehouse exchange at Whitehouse, Texas, and to provide service on an area coverage basis. The



*Harvey Robbins watches Mrs. Lola Lewis connect last call before cutover.*

*This tiny frame house was original headquarters of Lakeside Telephone Co.*



Whitehouse exchange had 228 subscribers receiving common battery service through a one-position switchboard, but this switchboard was not even adequate to serve all existing subscribers.

Robbins' first move was to transfer the two-position switchboard from the recently converted Maud exchange to Whitehouse in order to handle additional subscribers until the system could be converted to dial. Cutover took place on January 1, 1961, with 428 main stations. During the first month of operation it added 25 new stations, and applications are still coming in. The Whitehouse exchange offers extended area service between Whitehouse and Tyler.

The Whitehouse exchange also serves over half the shoreline of Lake

Tyler which is about 1½ miles from Whitehouse. This area has many new seasonal and year-round residences, and others are planned.

Harvey Robbins knows his problems are not all behind him, but he also knows that he will be able to face whatever the future may bring, for he has achieved his goal—a business of his own, and he is proud that it is a business dedicated to the service of his fellow men. Robbins' story is not unusual. Rather it is typical of American enterprise in action.

## GRASS IN THE FILE CABINETS

Chester Kassing, who operates a dairy farm just south of Beatrice, Nebraska, is growing grass in filing cabinets during the winter months to feed his 90-some head of dairy cattle. The technical name for Kassing's operation is hydroponics—growing plants with their roots in liquid nutrient solutions, rather than soil. By this method, Kassing produces rich green grass, 7 inches tall in 6 days.

In the growing operation, it is necessary to have uniform temperature and humidity controls. The building housing Kassing's grass-growing files has two window-type electric heat pumps installed in the wall. This equipment will heat, cool, and exhaust according to needs, and it is particularly desirable because of its lack of noxious gases, which might retard plant growth. Kassing's operation is served by Norris Public Power District, at Beatrice.

## RURAL HOUSING LOANS

The Farmers Home Administration now has available a leaflet which answers many questions and explains the details of its policy on rural housing loans. The leaflet covers such subjects as who may borrow, how loan funds may be used, interest rates, security needed, and types of buildings that may be financed.

You may obtain the leaflet, No. PA-476, from any county FHA office (these are usually located in county seat towns) or, if unable to locate a local FHA office, write the Farmers Home Administration, U.S. Department of Agriculture, Washington 25, D. C.

# North Dakota TELEPHONE TEAM

"All we've got to sell is service and if we can't do that we might as well kick out the fire and call the dog," shrugs Frankie Solberg, when he's asked to explain the success of his telephone co-op. But the success of United Telephone Mutual Aid Corporation, of Langdon, North Dakota, was brought about by more than just "selling service." It resulted from teamwork—teamwork between two men who are exact opposites, a group of individualistic employees, and an understanding board of directors.

Solberg, the manager and sparkplug of the organization, is tough, shrewd, and idealistic. He likes everybody he meets and everybody likes him in return. Everywhere he goes he attracts a crowd. He's a great talker and loves to tell stories about how he came to North Dakota 35 years ago to work for an independent telephone company; how he worked the area on horseback, and in the winter with sleighs and skis, and how he has skied from Cavalier to Langdon, a distance of 35 miles. Later he rode trains and the conductors would stop and wait for him while he repaired lines. He has even used airplanes. He says, "today the romance is gone from the telephone business, but the money's better."

During World War II, Solberg served as a telephone construction plant superintendent with the Army. His job was to maintain communications from Edmonton, in Alberta, Canada, to Fairbanks, Alaska. It was in the Army, as a sergeant, that he acquired the nickname "Smackie Doo," (it originated from one of his own exclamations, "O.K. Smackie Doo, up



*Frankie Solberg*

and at 'em" accompanied by a sharp handclap when he entered the barracks at 4:30 a.m.) which followed him back to North Dakota. He also brought back a citation from the U.S. Government praising his work in Alaska.

He was distribution manager of the eastern division of the North Dakota Telephone Company (25 exchanges) when it was acquired by five REA cooperatives. One of these exchanges—Langdon—which was the only independent toll center in North Dakota, became the nucleus of United. Solberg was asked to manage it.

Just prior to this, Solberg had struck up an acquaintance with Kenny Sletten, an accountant with an electric power company, specializing in tax work. Sletten was Solberg's exact opposite, quiet, methodical, cautious. He, too, spent the war years in Alaska, with the Air Force. In 1951, he had come to North Dakota for a year from Fergus Falls, Minnesota. At the end of the year he decided to stay. He and Solberg became fast friends.





*Kenny Sletten discusses REA bulletin with Ward Ray, REA field man.*

When Solberg decided to manage United, he wanted Sletten to run the office. The latter, who had by this time become acting manager of the power company, gave up his job immediately and joined Solberg. Their contract was a handshake and they've been together ever since.

Their first year with United was rough. They spent most of it beating their heads against rules and regulations, with little professional help. All their easements were obtained by local people—farmers, landowners, etc. who were dedicated to bringing good telephone service to the area.

Solberg and Sletten worked like demons selling service, collecting enough equity and getting sufficient density to qualify for additional REA loan funds. Meanwhile, the Langdon exchange grew so fast that the area coverage survey and design had to be revised three times. The members of the board of directors joined with Solberg and Sletten. Together, they did all the surveying for the entire area of service.

They finally began building, but service in Langdon and another exchange was delayed 15 months because the supplier couldn't fulfill his contract for central office equipment. Langdon was cutover in September

1958. It serves 1,051 subscribers.

The cooperative has cutover seven other exchanges since then: Wales, serving 254 subscribers; Milton, 251; Sarles, 199; Walhalla, 509; Munick, 268; Rock Lake, 297; Egeland, 123. Of United's 3,202 subscribers 1,450 are rural people.

United happily made its first advance payment to REA after only 1 year of operation. Further, it was the first telephone borrower in North Dakota to make an advance payment.

All has not been entirely smooth for United, however. In this area, sleet is always a menacing hazard, but in 1959, it was very nearly disastrous. Two bad sleet storms, one in October and the other in December, caused many thousands of dollars damage. A good third of the system was on the ground, and toll service in Langdon was out for 17 days. This moved Solberg to observe, "two snowflakes get together in this country and we've got an icestorm."

Solberg, Sletten, and the board of directors agree that an important factor in the cooperative's success is the delegation of authority.

"We have three local managers, and a central office equipment supervisor," Solberg says, "Not one of them has to stand alone, but each is capable of thinking for himself, acting independently, and taking more than his share of responsibility.

"Every man in the organization is a 'combination' man. And every one is a pretty darn good salesman.

"For example," he continues, "We hired a man from a Langdon lumberyard to work on easements. Soon he moved up to construction work, and now he is a local manager. That man has sold straight line service to 97 percent of the subscribers in his base rate area. With teamwork like this we can keep our fire burning forever."



*Tele-trailer travels through Kansas, displaying modern telephone equipment for every purpose—from businessman's urgent need to homemaker's fondest whim.*

## KANSAS TELEPHONE PROMOTION

The Northern Kansas Telephone Company, an REA borrower at Ottawa, Kansas, had a problem that is most likely duplicated in many small independent companies and cooperatives in rural areas throughout the Nation. Northern Kansas serves 34 exchange areas in some 25 counties and, since most of these exchange areas are small, it does not operate commercial offices in each. Thus it does not have the advantage of direct contact opportunities so essential to expanded sales.

To overcome this problem, the company invested in a 17-foot aluminum house trailer, which it stripped and outfitted with telephone equipment. Company personnel installed colored wall and desk telephones, a three-line telephone, speaker telephone, space-maker telephone, bedroom lighted dial telephones, a key system, an electronic secretary, extension bells and gongs, flush and nonflush plugs and jacks, and a directory display.

One or more of each type of telephone was wired to two outside jacks on the trailer so that when the trailer is located in an exchange area, it can be connected to outside plant. Two

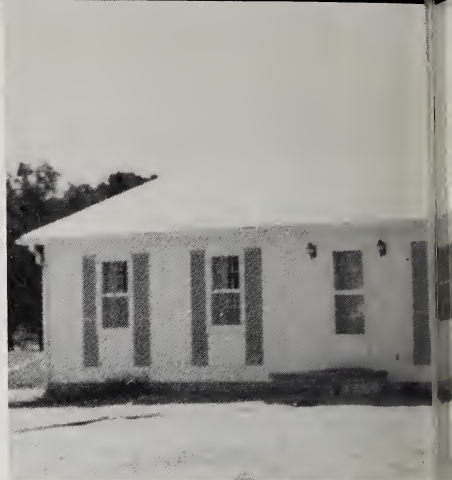
main lines can then be assigned to the trailer and the telephones can be dialed back and forth within the trailer itself or a person in the trailer can dial into the regular exchange just as though the telephone were installed in his own home or business establishment.

Existing subscribers are notified by mail when the trailer is due to arrive in their area, nonsubscribers often receive word through local newspapers, and a record player and amplifier combination announce its presence, once it has arrived. The trailer usually remains in an area 2 to 3 days. In its first 16 days in operation, its staff sold 58 main stations, 38 extensions, 13 color sets, 9 extension bells, 2 chimes, 3 gongs, and a buzzer, for a total annual revenue increase of \$3,378. Other Kansas telephone companies have expressed interest in leasing or renting the trailer after Northern Kansas has finished with the promotional program in its own exchanges. The company is considering allowing them to do so before dismantling the trailer.





*Manager Hooper congratulates F. J. Horlander, who will occupy the Gold Medallion home.*



## Crewe Co-Op Builds

Southeast Electric Cooperative at Crewe, Va., recently presented its Gold Medallion home to demonstrate the advantages of electric service. The home also to dramatize the advantages of electric service. The home also to dramatize the advantages of electric service. The home also to dramatize the advantages of electric service.

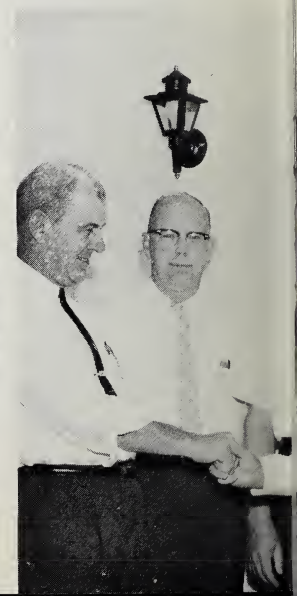
The Medallion home, open for inspection, features individual temperature controls in each room, a central laundry center with automatic washer and dryer, and modern lighting.

The co-op also used the occasion of the home's dedication to present credit checks totaling over \$56,000 to the members during 1956.

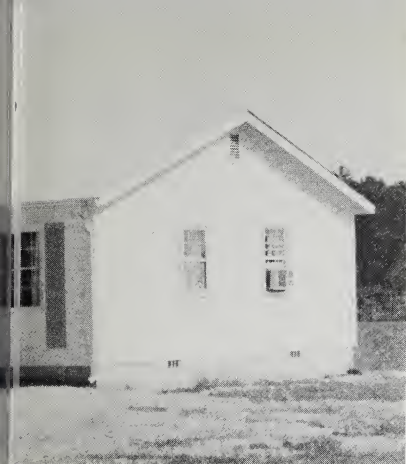
*All-electric kitchen features automatic washer and dryer, dishwasher, combination refrigerator-freezer, range, and modern lighting.*



*Hooper (left) greets distinguished guests. They are: Mr. Fisher, Secretary, and Gus Hagburg, Secretary, and Mayor of Crewe; R. Sh...*







## Medallion Home

Virginia, recently built a \$12,000 home for insulation for home heating, and for electric living. It was built near the co-op, and 8,000 persons who attended South Carolina's second largest turnout in the co-op's history at the 1960 meeting.

The day before the meeting, features a living room, an all-electric kitchen, and a laundry room with an electric dryer.

At the annual meeting to distribute capital stock to those persons who were members



*Home is heated with baseboard units, temperature in each room is individually controlled.*

Invited guests at home opening ceremony. Valley Lumber Co., builder; F. H. Flippin, president, Crewe C. of C.

*J. W. Morris, local appliance dealer, explains conveniences of modern appliances to visitors viewing Medallion home.*



# REWIRING SOLVED OUR POWER PROBLEMS

When Harry Pappas was made manager of Chimney Rock Public Power District in March 1958, he fell heir to its big trouble—outgrown wiring. Chimney Rock, located at Bayard, Nebraska, was organized in 1936 when kwh usage was low and houses were wired for little more than a light bulb.

As the years passed, and more and more uses were found for electricity,

cuts resulted in further complications. Sometimes the farm home caught fire, and often service was knocked out by blown transformer fuses, and sometimes by burned-out transformers. All this was very costly for the PPD.

Pappas, a local man, was born and raised on a 160-acre farm about 10 miles out of Bayard. He had studied his lessons by kerosene lamp, which,



*Chimney Rock, from which PPD took its name, dominates Bayard landscape.*

naturally kwh consumption soared—and Chimney Rock's problems multiplied. To begin with, the PPD's insurance coverage did not permit maintenance personnel to do any electrical work beyond the consumer's service entrance. On the other hand, rural people found it difficult and often absolutely impossible to get qualified help to go out into the country to make repairs, so they began doing home patch-up jobs for themselves. Further, when fuses blew, they found dangerous ways to beat them, without eliminating the cause of the trouble.

Naturally, these hazardous short-

cuts, he says, is why he dedicated his life to promoting electricity.

In early 1936, he worked for the construction company that built Chimney Rock. Later that year, he went to work for the PPD itself—first as a groundman, then as lineman, and later as foreman.

While he was foreman, Pappas watched with growing concern, Chimney Rock's increasing problems. With the advent of television in the area, these problems were brought more sharply into focus than ever. TV owners constantly complained of poor reception and many called in repair-





*Harry Pappas, PPD's manager, is pleased by response to rewiring plan.*

men, who could find nothing wrong with the sets—simply because overloaded circuits were the troublemakers.

The problem of inadequate wiring began to haunt Pappas. "Why," he wondered, "couldn't the PPD rewire consumers' homes?"

He began to investigate the feasibility of such a move, and found that, since the PPD had qualified personnel available to do the work, it would involve little more than changing Chimney Rock's insurance coverage to protect the PPD against lawsuits and broaden employees' protection.

Soon after he became manager, Pappas presented his idea to Chimney Rock's 11-man board of directors. They were for it 100 percent. Within 30 days after receiving the green light from the board, Chimney Rock was in the rewiring business.

Pappas advertised the new service only once—via a letter to each of Chimney Rock's 1,300 consumers. Response was immediate and far exceeded expectations. And so far the demand for both rewiring and repair-

ing existing wiring has shown no signs of letting up.

During that first winter, 1958, four members of the PPD's six-man line crew each worked about 15 hours a week making repairs and doing rewiring. Pappas, however, was not completely satisfied with the efficiency of this arrangement, and by spring he had a better idea.

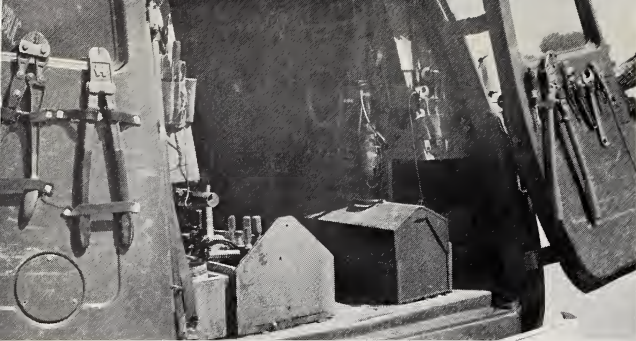
With the board's approval, he purchased a panel truck and equipped it with all the necessary supplies for rewiring, and a two-way radio (an important item for maintaining constant contact with the wiring truck in case of emergencies). Then he hired Calden Anderson, an electrician, to man the truck full time. Several other employees still do wiring part-time, when the workload is particularly heavy, and two men are on call 24 hours a day, 7 days a week, but Anderson handles the bulk of the work.

Because the PPD shares in the benefits of rewiring, both in lower maintenance and fewer repairs, the con-

*PPD installs irrigation pumps for consumers. Most crops need irrigating.*







*Wiring truck carries complete line of supplies and equipment for rewiring consumer's residences and installing electric appliances.*

sumer can be certain that he is getting the best possible job. The PPD has rewired an average of 160 homes annually since beginning the project. During this period, the PPD's costs for maintenance of service dropped an amazing 90 percent.

Chimney Rock endeavors to do all rewiring on a nonprofit basis. It keeps very comprehensive records of wiring costs, including cost of tools and equipment, insurance, maintenance of truck, mileage, gas, etc. It buys materials in quantity when items are being promoted. It charges the consumer for the material at the wholesale price, plus 25 percent for expenses; and for labor, which is computed only for the time the electrician is actually on the job.

In addition to rewiring existing homes, the PPD will help its consumers to plan new all-electric homes. Chimney Rock's area has been gaining population in recent years, as many folks from Scotts Bluff have bought acreage in rural areas, and are building homes. More and more of these people are considering all-electric homes. Since Pappas became manager, 10 all-electric homes have been added to Chimney Rock's lines. The PPD gives a rate differential to any consumer with electric heating. It does this through separate metering.

Chimney Rock does not repair any electric appliances, nor does it sell any. It will, however, install appliances at no charge other than any necessary wiring or outlets. By mid-

1961, installations totaled over 400. It costs Chimney Rock an average of \$23 to install an appliance, but Pappas figures that each appliance hook-up pays the PPD back in less than a year.

Practically all the crops—potatoes, sugar beets, corn, beans, alfalfa, safflower—in the area around Bayard are grown under irrigation. Chimney Rock installs irrigation pumps for its consumers; it installed nine in the first 6 months of 1961. Another service it offers its consumers is the once-common practice of replacing burned out light bulbs free of charge.

Pappas is extremely proud of the expansion in the amount of power used by Chimney Rock's consumers in the past 3 years. In 1959, power sales were 18.9 percent above 1958; in 1960, they rose another 10.4 percent; and in the first half of 1961 they had already climbed 12 percent over the 1960 total. All this took place without an appreciable change in the number of consumers on the lines. In fact, things have been so good since Chimney Rock started its rewiring program, that 10 miles of new three-phase line had to be added to the system last year.

Pappas has only one bit of advice for electric borrowers who may be contemplating going into wiring.

"First, make sure that the service is needed in your area, then be very certain you want to do it," he says, "because, once you get into it there's no backing out. Our users would probably shoot us if we stopped our wiring service now."



*Co-op pole behind old split rail fence, reminiscent of a bygone era, helps bring modern electric service through rugged terrain to tiny Luber, Arkansas.*

## The Lights Go On—In Luber

"When the lights go on tonight in Lone Dot" was the headline for one of the Silver Jubilee advertisements of America's rural electric systems. It was symbolic of the area coverage achievements of the consumer-owned electric utilities across the Nation.

Lone Dot and its story of area coverage was significant to folks in the tiny community of Luber, Arkansas, for another reason. As others across the Nation were observing the 25th Anniversary of the rural electrification program, 24 families in this remote area of southern Stone County were preparing for the "lights to go on" in their homes for the first time in their lives.

Crews of First Electric Cooperative Corporation, with headquarters in Jacksonville, worked like beavers dynamiting and drilling through solid rock across the mountains to set the poles for the line to carry power to these unserved Arkansans. The cooperative maintains a district office in Heber Springs, to serve the area around Luber.

"As the crow flies" it's not far from Heber Springs in neighboring Cle-

burne County to Luber. But linemen and other workmen for First Electric had to reach Luber by road, and a road isn't always the easiest thing to find in that part of the country, even if you're standing in the middle of it.

The story of Willis Anderson, a leader in the move to secure central station electric service for Luber, is typical of the new co-op members and how badly they wanted that service. Eleven years ago, Anderson tried to get the commercial power company, which built into an adjacent, but more thickly populated area, to serve his community. Like the oft repeated tale, the lines of the power company almost crossed Anderson's property line, but it refused to serve his small farm.

"The power company promised us each year that they would extend their lines into our area, but somehow they never could get to it," Anderson said.

Even before the cooperative energized the lines to their homes, Anderson and his neighbors bought water pumps and other appliances in anticipation of the new service. Further, as soon as service was obtained, they began making up for lost time by buy-



ing appliances and equipment and expanding their use of electricity at a much faster rate than many of the original members of First Electric.

The new members, however, are buying appliances in much the same order as their predecessors did a quarter of a century ago. Most have bought electric refrigerators, washing machines, radios, and irons.

In discussing the advantages of electricity in his home, Anderson tells how a few years ago he and his family were packed for a trip to Michigan. They were to leave before daylight and as a daughter walked onto the porch in the dark, she stepped on and was bitten by a copperhead snake. "If we'd had lights at that time," Anderson said, "I don't think the snake would have been there."

One manifestation of modern times has appeared on the first anniversary of electric service around Luber that did not show up until much later in areas that were electrified earlier. Most of the tiny houses clinging to the mountainsides have sprouted television antennas. These rural folk no longer "go to bed with the chickens." They watch the same television shows that their city cousins watch.

Lester Gill, one of the lucky men on the mountain who doesn't have to chop a pile of stovewood every night (he and his wife have a hot plate), has lived 50 years without electricity and 1 year with it.

"Boy, I'm telling you right," he remarked, "I wouldn't be without it. We have a television, refrigerator, radio, iron, and one of those deepfryer things and we plan to buy an electric range soon."

Mrs. Gill, postmistress at Luber for 21 years, said electricity makes things "much easier and better all the way around. The washing machine particularly helps us a lot," she continued.



*In home—which doubles as post office—bed spring is rigged up to serve as TV antenna; reception is excellent.*

Most of the Luber people keep their old kerosene lamps around just in case of power failure. It isn't that they distrust electricity. They just realize that maintaining service could be difficult in such rugged country. So far, service has been interrupted only once for a brief period during an electrical and heavy wind storm at Heber Springs.

Now that Luber is lighted, there are very few dark spots left on the map showing unserved areas in Arkansas. In 1935, less than 2 percent of the farms in the State had central station electric service. Latest REA figures show that over 97 percent of the State's farms have electricity.

Carl A. Williams, who became manager of First Electric on March 1, 1960, noted that taking electricity to Luber was "A major step toward area coverage." According to Williams, there are no other areas in First Electric's assigned territory in which electricity is not readily available.

"Although the cost of construction





*Cecil Gibson (left) co-op power use advisor and O. L. Fawcett, Heber Springs district manager, observe progress on broiler house of Willis Anderson (seated).*

per mile into the rough terrain of southern Stone County was extremely high," Williams explained, "service to the isolated residents of the area was made possible by (1) more use of electricity by already connected members during the past few years. (2) Arkansas Act 103 of 1957 providing for territorial integrity, and

(3) REA funds at 2 percent interest for a 35-year period.

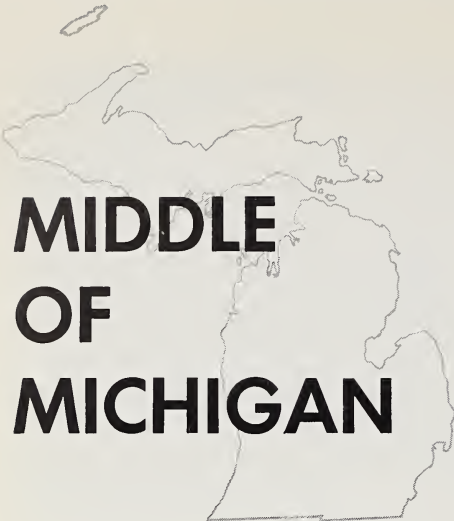
"Further," Williams added, "as a result of the 1944 amendment to the Rural Electrification Act, our board of directors feels that First Electric Co-operative is obligated to ensure area coverage throughout our territory when at all possible."

## ALABAMA GETS \$20 MILLION LOAN

REA Administrator Clapp recently approved the first REA loan under the new security criterion for the financing of generation and transmission facilities. The loan, which went to Alabama Electric Cooperative, a federation of REA-financed distribution cooperatives in southern Alabama and northern Florida, also qualified under the criterion for lower power cost. The funds—totaling \$20,350,000—will be used to provide additional generation and transmission facilities to meet the power needs of nine of the federation's member cooperatives.

In a statement regarding application of the security criterion, Mr. Clapp said: "The future security and effectiveness of the cooperative rural electric distribution systems is an important consideration in REA loans to finance new G&T facilities both to assure the Government full repayment of its loans, and to protect the investment of rural people in their cooperatives.

"To remain secure, they must continue to serve the areas they developed in good faith, areas which the utilities had long neglected and passed by without service. To remain effective, they must be able to serve the larger as well as the smaller loads in their areas without interference or restriction by unfriendly power suppliers."



# MIDDLE OF MICHIGAN

If you want a tree trunk debarked—or a silo built out of concrete slabs—you can get it done in Portland, Michigan. That's where the rural industries that do those two unique jobs may be found. Portland is also where the headquarters of the Tri-County Electric Cooperative, the REA borrower that provides electric power for these industries, is located.

The co-op, under the management of Vernor D. Smith, furnishes electric current to 8,000 consumers in 13 counties—a service area roughly 65 miles wide and 185 miles long running down through the middle of Michigan.

Tri-County shares a trim headquarters building with the Wolverine Electric Cooperative, a power-type borrower that serves Tri-County and two other distribution co-ops. Tri-County takes about half of Wolverine's power output. Although the co-op's progress has not been spectacular, it has been steady. Recently, it arranged with Wolverine to enlarge the headquarters building "to give us space to move around in," as Smith puts it.

The list of rural industries on Tri-County's lines is long and varied. It has not, however, brought them all onto its lines without help. It works

hand in hand with the State Economic Development Commission in the steady effort to provide reliable electricity for small factories and plants along its 1,800-mile network of line.

One of these industries at Winn, Michigan, 60 miles north of Portland, designs and manufactures an unusual tree debarking machine. Last year the firm chalked up \$3 million worth of sales, and it expects to hit \$5 million when the 1961 totals are in.

Willard Haenke, board president of the Tri-County cooperative, is a foreman at the plant. "We opened only 3 years ago," he recalls. "Since then, we've had to enlarge several times. Today, the plant is four times the original size, and is still growing."

The bustling plant employs 60 people and provides the area with a fat weekly payroll of more than \$7,000. It produces about 10 machines a week which sell for about \$9,000 each. Haenke says there is only one other company in the country making the same product.

"I'm glad our co-op serves this load," he said. "When I come to work in the morning and hear the drills, grinders, arc welders, and motors making all that noise, it makes me proud to know our co-op is responsible for turning all those wheels."

Looking around the cavernous plant, he added, "this concern would never have located here in the first place, if it couldn't have gotten adequate, dependable electric power, at reasonable rates."

The same reliable power works just as hard for another rural industry the co-op serves, at Charlotte, Michigan, about 30 miles to the south. There, about 80 men work for a company, which produces a quick and sturdy silo that almost belongs in the "do-it-yourself" field.

Heart of the plant is the "pouring room" where 90-pound concrete staves

are produced. The average silo requires from 1,000 to 3,000 of these blocks, plus steel bands to hold each layer together. An unloader goes on top, just under the roof and presto—there's your "home made" silo. A bank of three 50-kva transformers deliver power to the plant, which markets its product in Michigan, Indiana, and Ohio.

Closer to its own headquarters in Portland, the co-op provides power for the stone-crushing machinery operated by a construction company. This plant grinds out more than 80 cubic yards of gravel per hour—almost 1,000 yards a day. Its 50 employees produce fine and coarse gravel to be used for road construction and in the manufacture of building blocks. The company owns three 200-kva transformers, which pick up the co-op current.

Tri-County also takes an active interest in the youth of its area. There are many new schools on its lines. The Pewamo-Westphalia Community School, for example, opened its new building in September 1961, with an initial enrollment of 500 students. It takes a whopping load of 1,200 amps, and this total will increase considerably when wiring to light the athletic field is completed. Further, Tri-County cooperates with the Michigan Rural Electric Cooperative Association to provide vocational training for young people. At present, local vocational agriculture leaders under supervision of the statewide group are teaching a course in electricity.

The statewide group, although it functions without a permanent headquarters office, is a hard-working organization. It meets every 6 months, with the 15 borrowers taking turns acting as hosts. The most recent meeting, at Clare in October 1961, attracted more than 100 participants for a 3-day program. Tri-County will host

the next one, in April 1962, also to be staged at Clare. Manager Smith is already busy planning and preparing the April program.

With the strong leadership of its board of directors and manager, Tri-County, which will celebrate its 25th Anniversary in 1962, expects to continue its significant contribution to agriculture, industry, and education in central Michigan.



*These cement blocks are grooved to fit together, forming a snug, sturdy silo.*

*Workman applies finishing touches to a part of tree-debarking device.*







*Seat belts are as important for back seat passengers as for those up front.*

# For Safety's Sake—

## SEAT BELTS

*by Duane Peterson  
Training and Safety Director  
Northwest Iowa Power Cooperative*

Have you ever wondered where you'd end up if your car did a complete flip? Thomas Gaul, electronic technician for Northwest Iowa Power Cooperative, found the answer to this question with dramatic suddenness on a wet country road last September. As Gaul crested a hill, his station wagon faced a tractor and car blocking the road dead ahead of him. To avoid skidding into either of them, he took to the shoulder. The station wagon rolled completely over coming to rest on its wheels in a ditch. Damage was so extensive, that the vehicle was later termed a total loss.

Gaul, however, walked away from the wreck without a scratch! A seat belt held him in his seat during the car's acrobatics. No one can say for certain that the seat belt saved Gaul's life, but witnesses were convinced that it was a strong factor. In fact, they were so thoroughly convinced that the co-op's personnel bought 27 sets of

seat belts the following day to install in their own cars.

Each year thousands of lives are lost because people are thrown against windshields or out of car doors by the impact of crashes. The chances of being killed in an accident are five times greater when a person is thrown from a vehicle. Extensive research has proved that a seat belt is the most effective single item of protective equipment available to combat this hazard.

Leading car manufacturers have announced that they will install seat belt hardware in all 1962 models, thus making it easier to have the belts added. The cost is low, but the benefits are high—sometimes the difference is life or death!

A final word, however; seat belts do not work when they are left dangling. Fasten them before the ignition is turned on—and keep them fastened all the time the vehicle is in motion.

# New and Revised REA Bulletins . . .

## New Bulletins:

800-3 (9/11/61), "Financial Participation in Rural Areas Development." This bulletin provides REA recommendations concerning borrowers' financial participation in rural areas development.

## Revised Bulletins:

109-3, 409-2 (10/2/61), "Application of the Fair Labor Standards Act—Federal Wage and Hour Law." A revision reflecting the 1961 amendments to the Fair Labor Standards Acts including the new minimum wage rate, effective September 3, 1961.

44-7, 345-3 (10/9/61), "Acceptance of Standards, Standard Specifications, Drawings, and Materials and Equipment for the Electric and Telephone Borrowers." A revision to bring the bulletin up to date in accordance with the new REA organization.

## Supplements and Partial Revisions to REA Bulletins:

344-2 (7-9-11/61), "List of Materials Acceptable for Use on Telephone Systems of REA Borrowers." Supplements 1, 2, and 3 to incorporate the changes which have occurred since the current basic list was issued in April 1961.

24-1, 821-1 (8/25/61), "Electric Loan Policy for Section 5 Loans." An amendment describing REA requirements regarding applications for Section 5 loans to finance electrical machinery and equipment.

383-1 (8/25/61), "Preparation of Telephone System Plans and Specifications for Outside Plant." A memorandum describing revised REA standards for the sequential length marking of aerial and buried cables where the use of such markings are specified by the borrower.

383-1 (9/22/61), "Preparation of Telephone System Plans and Specifications for Outside Plant." An addendum to REA Contract Form 511 to permit the borrower to control the days of the week on which work may be done by the contractor.

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- 3 *The "Invisible" Telephone System*
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